Managing America's Water – Toward a More Modern Approach

In the 19th Century, disputes over water use were sometimes settled with guns. In the 20th Century, they often wound up as drawn-out court cases – some of which are still ongoing today. With increased demand for a finite supply sure to come in the 21st Century, America seeks a better way to manage its water resources.

U.S. water policy has evolved in response to legislative authorities, water use demands, environmental health, and economic climate. With heightened public awareness of the interrelationships among all uses of water, a wider range of stakeholders is interested in making decisions on water resource planning. As a result, "watershed approaches" that take into account a multitude of water uses over a wide area – as opposed to concentration on a single use at one project site - have been gaining popularity over the past decade.

The concept of watershed planning is not new to the U.S. Army Corps of Engineers. Throughout its history the Corps has incorporated watershed planning into the process by which it manages water resource systems. Even the Corps geographic organization – along watershed boundaries rather than State and county lines in most cases – supports the historic understanding of the need to manage water within a watershed.

This understanding and organizational concept alone, however, are not sufficient to ensure proper protection and responsible development of the Nation's water resources in the 21st century.

The Issues

This country is facing a looming water crisis. We are seeing frequent regional droughts, disputes over allocation brought on by growing population demands, and widespread disagreement over competing purposes for water resource use. It is quite likely that water will generate as much controversy in the 21st Century as oil did in the last century. If America doesn't act, there will be more serious water conflicts in the next twenty years.

The problems of rapid growth in certain areas are worse because responsibilities to address water needs are distributed among a multitude of government agencies and private companies, so that problem-solving efforts are typically fragmented. The results are predictable: instead of broadly supported regional solutions that address multiple needs, balance competing uses, and can be quickly implemented – we get narrowly focused, contentious and slowly implemented, uncertain and expensive, inferior solutions.

For several years, the Nation's priorities and values related to water resources have been changing. This is a natural evolution resulting from advances in scientific knowledge, public reaction to that increase in knowledge, and an unprecedented national prosperity that allows us to consider more than the short term basics of life.

Given its prominent role in almost every phase of water resources and its national presence, it's not surprising that the Corps has found itself at the center of controversy in this new public water policy debate.

Recently the Corps has drawn much criticism. Scrutiny has been directed at the types of projects the Corps recommends, the rigor of its technical analyses, the effectiveness of its public interactions, and the adequacy of its review process. Critics have accused it of inadequate economic analyses (or even deliberately falsifying them), of being less than transparent in its processes, of not being inclusive, of not considering the cumulative environmental impacts of its actions, of weighing economic benefits more heavily than environmental ones, of not seeking sufficient independent reviews of its recommendations, and other undesirable actions. Members of Congress, the media, environmental organizations, citizens groups, and technical experts have questioned the approach, process, and outcomes of the Civil Works program.

History

The Corps of Engineers process for evaluating potential water projects is rooted in history and in law. The 1936 Flood Control Act required the Corps to recommend projects only if project benefits exceed project costs. The National Environmental Policy Act (1969) and the Nixon Administration's *Principles and Standards for Water Resources Development* (P&S, 1973) created a formal responsibility to assess environmental impacts, and introduced environmental quality as a selection factor for projects.

In 1983, the Reagan Administration replaced the P&S with the *Principles and Guidelines* (P&G). The new guidelines generally called for selection of the plan that maximizes net national economic development benefits while adequately protecting the environment. The Water Resources Development Act of 1986 greatly expanded the extent to which projects must have non-Federal sponsors to share costs with the Federal government. The concept was that willingness to share the costs was a prime indicator of serious local interest in a project.

One of the consequences of increased cost-sharing requirements, however, was to shift the Corps focus from comprehensive water resources planning to one centered on the needs of the cost-sharing partner. Non-Federal interests who cost share watershed studies are bound to support local needs over broader regional goals for water management.

The Context for Federal Involvement

Historically, the center of mass for water resources management in the U.S. has been (and should continue to be) around state and local control. The Federal government has mainly been involved in issues of national or multi-state significance (interstate navigation, for example). However, a 21st Century approach to water resources management requires decision makers to integrate a complex array of public values and institutional policies, regulatory frameworks (permits, licenses, and monitoring), planning criteria, operations, maintenance and design standards, public participation, private sector business partnerships, and interstate and intergovernmental priorities, all within a process that fosters transparency and trust. The scope, technical complexity, the magnitude of water issues, and the extent of desired participation all lend themselves to Federal involvement.

Given the likely direction of future water management, Federal agencies will need to adopt the following roles and responsibilities:

1. Promote ecosystem health,
2. Provide facilitation and support where non-Federal entities are in conflict or require special resources,

3. Support public infrastructure system reliability,
4. Provide national-level information,
5. Encourage advancements and innovations in technology, and
6. Promote the highest levels of science and research, and
7. Promote solutions through partnerships – both public and private sector.

These roles and responsibilities must be considered in the context of the large social decisions confronting the Nation. Water management can only work effectively with transparent decision-making, public participation, and financial support for holistic, integrated planning.

Modernizing Water Resources Management and Protection

In the summer and fall of 2000, the Corps of Engineers held a series of 16 "listening sessions" around the Nation to hear what Americans thought were the major water challenges for the 21st Century. The participants provided valuable input for Federal involvement that would best help various levels of government face these challenges.

One of the frequently raised topics was the need to address water challenges from a watershed view, highlighting collaboration and integration. Some present-day watershed management efforts, such as the Comprehensive Everglades Restoration Plan, already promote active participation of all interested parties in the planning and decision-making process.

The Corps believes that this concept of integration is the key to reforming America's water development, protection, and restoration. In its recently released *Watershed Perspective for the Civil Works Program*, the Corps describes the foundation for watershed activities and involvement. The nine Watershed Principles outlined there provide the approach the Corps seeks to follow in its water resources management.

The Watershed Approach is based on:

1. Seeking sustainable water resources management,
2. Integrating water and related land management,
3. Considering future water demands,
4. Coordinating planning and management,
5. Promoting cooperation among government agencies at all levels,
6. Encouraging public participation,
7. Evaluating monetary and non-monetary trade-offs,
8. Establishing interdisciplinary teams, and
9. Applying adaptive management as changing conditions or objectives warrant.

Unlike the single-purpose, project-driven initiatives that the Corps had been directed to accomplish in the past, the perspective of this new watershed approach is based on multi-purpose, multi-objective management, examining all water needs in the watershed.

Within this broader context, watershed partners would collaborate to simultaneously address multiple objectives - environmental quality, social effects, and national and regional economic development. Projects may still be needed, but would be undertaken with the advantages of a clear public understanding of the priorities and a collaborative working environment. New projects, or those already in operation, would be monitored for performance against watershed objectives.

Such an approach considers all interests and viewpoints, gives special weight to state and local governments and stakeholders, involves all interested Federal agencies, considers problems and solutions in a broader context, opens up the analysis and problem solving process, encourages innovative solutions, and analyzes the full range of benefits and impacts.

The Path to Better U.S. Water Resources Management

Water experts and the public are increasingly looking towards integrated water management as the way to achieve environmentally sustainable solutions that can also be implemented faster and at a lower cost than traditional engineering projects. Assuring the success of this approach, however, will eventually require landmark legislation.

Major elements of the legislation would address:

- Organization of a Federal agency consortium to ensure unity of purpose and collaboration on watershed policy at the National level among the U.S. Army Corps of Engineers, the Department of Interior, the Department of Agriculture, the Environmental Protection Agency and other appropriate Federal agencies.
- Development of regional watershed resource teams to ensure integration and collaboration among Federal, State, local and Tribal agencies and non-government interests within watersheds.
- Establishment of procedures that promote inclusion by individuals and non-government organizations in watershed resource planning and management decisions.
- Innovative resourcing and implementation of solutions involving the full spectrum of public and private sector stakeholders.

Conclusion

There is a growing recognition that local problems have regional dimensions, and must be addressed in this context. The watershed approach accommodates these issues through collaborative, intergovernmental and private partnerships that are actively engaged in comprehensive programs focusing on the planning and management of water resources. This allows water managers and decision-makers to better understand the cumulative effects of their activities and establish relationships among the critical issues within the watershed. That understanding opens the door to a new range of solutions to water problems that no one agency would have developed, or could carry out, by itself.